

```
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBBBBBBBBBBBBB      AAAAAAAAAA      SSSSSSSSSSSSSS      RRRRRRRRRRRR      TTTTTTTTTTTTTTTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAAAAAAAAAAAAAAAAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBB      BBB      AAA      AAA      SSS      SSS      RRR      RRR      TTT      TTT      LLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
BBBBBBBBBBBBBB      AAA      AAA      SSSSSSSSSSSSSS      RRR      RRR      TTT      TTT      LLLLLLLLLLLLLLLL
```

```
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      TTTTTTTTTT      RRRRRRRR      LL      000000
BBBBBBBBB      AAAAAA      SSSSSSSS      CCCCCCCC      TTTTTTTTTT      RRRRRRRR      LL      000000
BB          BB  AA          AA  SS          CC          TT          RR          LL      00          00
BB          BB  AA          AA  SS          CC          TT          RR          LL      00          00
BB          BB  AA          AA  SS          CC          TT          RR          LL      00          00
BB          BB  AA          AA  SS          CC          TT          RR          LL      00          00
BBBBBBBBB      AA          AA  SSSSSS      CC          TT          RRRRRRRR      LL      00          00
BB          BB  AA          AA  SSSSSS      CC          TT          RRRRRRRR      LL      00          00
BB          BB  AAAAAAAAAA      SS          CC          TT          RR          LL      00          00
BB          BB  AAAAAAAAAA      SS          CC          TT          RR          LL      00          00
BB          BB  AA          AA  SSSSSS      CC          TT          RR          LL      00          00
BB          BB  AA          AA  SSSSSS      CC          TT          RR          LL      00          00
BBBBBBBBB      AA          AA  SSSSSSSS      CCCCCCCC      TT          RR          LLLLLLLLLL      000000
BBBBBBBBB      AA          AA  SSSSSSSS      CCCCCCCC      TT          RR          LLLLLLLLLL      000000
                                     ....
                                     ....
                                     ....
                                     ....

LL          IIIIII      SSSSSSSS
LL          IIIIII      SSSSSSSS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SSSSSS
LL          II          SSSSSS
LL          II          SS
LL          II          SS
LL          II          SS
LL          II          SS
LLLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLLL      IIIIII      SSSSSSSS
```

```
1 0001 0 MODULE BAS$CTRL0 (
2 0002 0 IDENT = '1-004'
3 0003 0 ) =
4 0004 1 BEGIN
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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25 0025 1 *
26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1
30 0030 1 ++
31 0031 1 FACILITY: VAX-11 BASIC Miscellaneous I/O
32 0032 1
33 0033 1 ABSTRACT:
34 0034 1
35 0035 1 This module contains the BASIC CTRL0 and RCTRL0 functions,
36 0036 1 Which suppress and unsuppress output on a specified channel.
37 0037 1
38 0038 1 ENVIRONMENT: VAX-11 User Mode
39 0039 1
40 0040 1 AUTHOR: John Sauter, CREATION DATE: 19-APR-1979
41 0041 1
42 0042 1 MODIFIED BY:
43 0043 1
44 0044 1 1-001 - Original.
45 0045 1 1-002 - Set up ISB$A_USER FP. JBS 25-JUL-1979
46 0046 1 1-003 - Correct test of LOB$V_OPENED. JBS 26-FEB-1980
47 0047 1 1-004 - Set CCO bit on the output side of channel 0. JBS 31-MAR-1980
48 0048 1 --
49 0049 1
50 0050 1 !<BLF/PAGE>
```



```
52 0051 1 |
53 0052 1 | SWITCHES:
54 0053 1 |
55 0054 1 |
56 0055 1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
57 0056 1 |
58 0057 1 |
59 0058 1 | LINKAGES:
60 0059 1 |
61 0060 1 |
62 0061 1 REQUIRE 'RTLIN:OTSLNK'; ! Define Linkages
63 0490 1 |
64 0491 1 |
65 0492 1 | TABLE OF CONTENTS:
66 0493 1 |
67 0494 1 |
68 0495 1 FORWARD ROUTINE
69 0496 1 BAS$CTRL0, ! Suppress output
70 0497 1 BAS$RCTRL0; ! Cease suppressing output
71 0498 1 |
72 0499 1 |
73 0500 1 | INCLUDE FILES:
74 0501 1 |
75 0502 1 |
76 0503 1 REQUIRE 'RTLML:OTSLUB'; ! Get LUB definitions
77 0643 1 |
78 0644 1 REQUIRE 'RTLML:OTSISB'; ! Get ISB definitions
79 0812 1 |
80 0813 1 REQUIRE 'RTLIN:RTLPSECT'; ! Macros for defining psects
81 0908 1 |
82 0909 1 LIBRARY 'RTLSTARLE'; ! System symbols
83 0910 1 |
84 0911 1 |
85 0912 1 | MACROS:
86 0913 1 |
87 0914 1 | NONE
88 0915 1 |
89 0916 1 | EQUATED SYMBOLS:
90 0917 1 |
91 0918 1 | NONE
92 0919 1 |
93 0920 1 | PSECTS:
94 0921 1 |
95 0922 1 DECLARE_PSECTS (BAS); ! Declare psects for BAS$ facility
96 0923 1 |
97 0924 1 | OWN STORAGE:
98 0925 1 |
99 0926 1 | NONE
100 0927 1 |
101 0928 1 | EXTERNAL REFERENCES:
102 0929 1 |
103 0930 1 |
104 0931 1 EXTERNAL ROUTINE
105 0932 1 BAS$$OPEN_ZERO : NOVALUE, ! Open channel zero
106 0933 1 BAS$$CB_PUSH : JSB CB PUSH NOVALUE, ! Load register CCB
107 0934 1 BAS$$CB_POP : JSB CB POP NOVALUE, ! Done with register CCB
108 0935 1 BAS$$STOP_IO : NOVALUE; ! Signal fatal I/O error
```

```

: 109      0936 1
: 110      0937 1 !+
: 111      0938 1 !- The following are the error codes used in this module.
: 112      0939 1 !-
: 113      0940 1
: 114      0941 1 EXTERNAL LITERAL
: 115      0942 1     BAS$K_IO_CHANOT : UNSIGNED (8);
: 116      0943 1     ! Channel not open.

```

```
118 0944 1 GLOBAL ROUTINE BAS$CTRLO (
119 0945 1     CHAN
120 0946 1     ) =
121 0947 1
122 0948 1     ++
123 0949 1     FUNCTIONAL DESCRIPTION:
124 0950 1
125 0951 1         Simulates typing a control 0 on the terminal open on the
126 0952 1         specified channel.
127 0953 1
128 0954 1     FORMAL PARAMETERS:
129 0955 1
130 0956 1         CHAN.rl.v      The channel whose terminal to simulate a
131 0957 1         control 0 on
132 0958 1
133 0959 1     IMPLICIT INPUTS:
134 0960 1
135 0961 1         NONE
136 0962 1
137 0963 1     IMPLICIT OUTPUTS:
138 0964 1
139 0965 1         LUB$V_CCO      Cancel control 0.
140 0966 1
141 0967 1     ROUTINE VALUE:
142 0968 1     COMPLETION CODES:
143 0969 1
144 0970 1         SSS_NORMAL
145 0971 1
146 0972 1     SIDE EFFECTS:
147 0973 1
148 0974 1         Signals if an error is encountered.
149 0975 1         BAS$$CB_PUSH will signal if the channel number is invalid.
150 0976 1         This function is a no-operation if the channel is not open.
151 0977 1
152 0978 1     --
153 0979 1
154 0980 2     BEGIN
155 0981 2
156 0982 2     BUILTIN
157 0983 2     FP;
158 0984 2
159 0985 2     GLOBAL REGISTER
160 0986 2     CCB = K_CCB_REG : REF BLOCK [, BYTE];
161 0987 2
162 0988 2     LOCAL
163 0989 2     FMP : REF BLOCK [, BYTE];
164 0990 2
165 0991 2     FMP = .FP;
166 0992 2
167 0993 2     ++ Get the CCB for the channel.
168 0994 2     --
169 0995 2
170 0996 2     IF (.CHAN EQL 0)
171 0997 2     THEN
172 0998 2     BEGIN
173 0999 2     ++
174 1000 3     The user is referencing his controlling terminal.
```



```
175 1001 :-  
176 1002 BAS$$CB_PUSH (LUB$K_LUN BPRI, LUB$K_ILUN MIN);  
177 1003 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];  
178 1004 :-  
179 1005 :-+ If the controlling terminal is not yet open, open it.  
180 1006 :-  
181 1007  
182 1008 IF ( NOT .CCB [LUB$V_OPENED]) THEN BAS$$OPEN_ZERO (.FMP [SF$L_SAVE_FP]);  
183 1009  
184 1010 END  
185 1011 ELSE  
186 1012 BEGIN  
187 1013 :-+  
188 1014 :- This is an ordinary channel.  
189 1015 :-  
190 1016 BAS$$CB_PUSH (.CHAN, LUB$K_LUN MIN);  
191 1017 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];  
192 1018 END;  
193 1019  
194 1020 :-+  
195 1021 :- If the channel is not now open, this function is a no-operation.  
196 1022 :-  
197 1023  
198 1024 IF (.CCB [LUB$V_OPENED])  
199 1025 THEN  
200 1026 BEGIN  
201 1027 :-+  
202 1028 :- Now clear the CCO bit, so control O's will not be canceled.  
203 1029 :-  
204 1030 CCB [LUB$V_CCO] = 0;  
205 1031 END;  
206 1032  
207 1033 :-+  
208 1034 :- We are done with register CCB.  
209 1035 :-  
210 1036 BAS$$CB_POP ();  
211 1037 RETURN TSS$_NORMAL);  
212 1038 END;
```

! end of BAS\$CTRL0

```
.TITLE BAS$CTRL0  
.IDENT \1-004\
```

```
.EXTRN BAS$$OPEN_ZERO, BAS$$CB_PUSH  
.EXTRN BAS$$CB_POP, BAS$$STOP_IO  
.EXTRN BAS$K_IO_CHANOT
```

```
.PSECT _BAS$CODE, NOWRT, SHR, PIC, 2
```

```
.ENTRY BAS$CTRL0, Save R2, R3, R4, R11  
MOVAB BAS$$CB_PUSH, R4  
MOVL FP, FMP  
TSTL CHAN  
BNEQ 1$  
MNEGL #8, R0  
MNEGL #8, R2  
JSB BAS$$CB_PUSH
```

```
54 00000000G 00 081C 00000  
53 04 5D D0 00009  
AC D5 0000C  
1E 12 0000F  
50 08 CE 00011  
52 08 CE 00014  
64 16 00017
```

```
: 0944  
: 0991  
: 0996  
: 1002  
:
```

BAS\$CTRL0
1-004

I 12
16-Sep-1984 00:10:22
14-Sep-1984 11:54:48

VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCTRL0.B32;1

Page 6
(3)

FF4C	CB	OC	A3	D0	00019	MOVL	12(FMP), -180(CCB)	:	1003
	1E	FC	AB	E8	0001F	BLBS	-4(CCB), 3\$:	1008
		OC	A3	DD	00023	PUSHL	12(FMP)	:	
00000000G	00		01	FB	00026	CALLS	#1, BAS\$OPEN_ZERO	:	
			0E	11	0002D	BRB	2\$:	0996
			50	D4	0002F	CLRL	R0	:	1016
	52	04	AC	D0	00031	MOVL	CHAN, R2	:	
			64	16	00035	JSB	BAS\$CB_PUSH	:	
FF4C	CB	OC	A3	D0	00037	MOVL	12(FMP), -180(CCB)	:	1017
	04	FC	AB	E9	0003D	BLBC	-4(CCB), 4\$:	1024
A0	AB		04	8A	00041	BICB2	#4, -96(CCB)	:	1030
			00	16	00045	JSB	BAS\$CB_POP	:	1036
	50	00000000G	01	D0	0004B	MOVL	#1, R0	:	1037
			04	0004E	RET			:	1038

; Routine Size: 79 bytes, Routine Base: _BAS\$CODE + 0000

; 213 1039 1


```
215 1040 1 GLOBAL ROUTINE BAS$CTRL0 (
216 1041 1     CHAN
217 1042 1 ) =
218 1043 1
219 1044 1 !++
220 1045 1 FUNCTIONAL DESCRIPTION:
221 1046 1
222 1047 1     Cancels control 0 on the terminal open on the specified channel.
223 1048 1
224 1049 1 FORMAL PARAMETERS:
225 1050 1
226 1051 1     CHAN.rl.v     The channel whose terminal to disable CTRL0ing on
227 1052 1
228 1053 1 IMPLICIT INPUTS:
229 1054 1
230 1055 1     NONE
231 1056 1
232 1057 1 IMPLICIT OUTPUTS:
233 1058 1
234 1059 1     LUB$V_CCO which, when set, cancels control 0.
235 1060 1
236 1061 1 ROUTINE VALUE:
237 1062 1 COMPLETION CODES:
238 1063 1
239 1064 1     SSS_NORMAL
240 1065 1
241 1066 1 SIDE EFFECTS:
242 1067 1
243 1068 1     Signals if an error is encountered.
244 1069 1     BAS$$CB_PUSH will signal if the channel number is invalid.
245 1070 1     This routine is a no-operation if the channel is not open.
246 1071 1
247 1072 1 --
248 1073 1
249 1074 2 BEGIN
250 1075 2
251 1076 2 BUILTIN
252 1077 2     FP;
253 1078 2
254 1079 2 GLOBAL REGISTER
255 1080 2     CCB = K_CCB_REG : REF BLOCK [, BYTE];
256 1081 2
257 1082 2 LOCAL
258 1083 2     FMP : REF BLOCK [, BYTE];
259 1084 2
260 1085 2     FMP = .FP;
261 1086 2 !+
262 1087 2 Get the CCB for the channel.
263 1088 2
264 1089 2
265 1090 2 IF (.CHAN EQL 0)
266 1091 2 THEN
267 1092 2 BEGIN
268 1093 2 !+
269 1094 2 The user is referencing his controlling terminal.
270 1095 2
271 1096 3     BAS$$CB_PUSH (LUB$K_LUN_BPRI, LUB$K_ILUN_MIN);
```

```
272 1097 3 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
273 1098 +
274 1099 - If the controlling terminal is not yet open, open it.
275 1100
276 1101
277 1102 IF ( NOT .CCB [LUB$V_OPENED]) THEN BAS$$OPEN_ZERO (.FMP [SF$L_SAVE_FP]);
278 1103
279 1104 END
280 1105 ELSE
281 1106 BEGIN
282 1107 +
283 1108 - This is an ordinary channel.
284 1109
285 1110 BAS$$CB_PUSH (.CHAN, LUB$K_LUN_MIN);
286 1111 CCB [ISB$A_USER_FP] = .FMP [SF$L_SAVE_FP];
287 1112 END;
288 1113
289 1114 +
290 1115 - If the channel is not now open, this function is a no-operation.
291 1116
292 1117
293 1118 IF (.CCB [LUB$V_OPENED])
294 1119 THEN
295 1120 BEGIN
296 1121 +
297 1122 - Now set the CCO bit, which will cause the record level code
298 1123 to tell RMS to cancel control 0.
299 1124
300 1125 CCB [LUB$V_CCO] = 1;
301 1126 END;
302 1127
303 1128 +
304 1129 - We are done with register CCB.
305 1130
306 1131 BAS$$CB_POP ();
307 1132 RETURN TSS$_NORMAL);
308 1133 END;
```

! end of BAS\$RCTRLO

			081C 00000	.ENTRY	BAS\$RCTRLO, Save R2,R3,R4,R11	: 1040
54	00000000G	00	9E 00002	MOVAB	BAS\$\$CB_PUSH, R4	: 1085
53		5D	D0 00009	MOVL	FP, FMP	: 1090
	04	AC	D5 0000C	TSTL	CHAN	
		1E	12 0000F	BNEQ	1\$	
50		08	CE 00011	MNEGL	#8, R0	: 1096
52		08	CE 00014	MNEGL	#8, R2	
		64	16 00017	JSB	BAS\$\$CB_PUSH	
FF4C	CB	OC	A3 D0 00019	MOVL	12(FMP), -180(CCB)	: 1097
	1E	FC	AB E8 0001F	BLBS	-4(CCB), 3\$: 1102
		OC	A3 DD 00023	PUSHL	12(FMP)	
00000000G	00	01	FB 00026	CALLS	#1, BAS\$\$OPEN_ZERO	
		0E	11 0002D	BRB	2\$: 1090
		50	D4 0002F	CLRL	R0	: 1110
52	04	AC	D0 00031	MOVL	CHAN, R2	

BAS\$CTRLO
1-004

L 12
16-Sep-1984 00:10:22
14-Sep-1984 11:54:48

VAX-11 Bliss-32 V4.0-742
[BASRTL.SRC]BASCTRLO.B32;1

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(4)

FF4C	CB	0C	64	16	00035	JSB	BAS\$\$CB_PUSH
	04	FC	A3	D0	00037	MOVL	12(FMP); -180(CCB)
AO	AB		AB	E9	0003D	BLBC	-4(CCB); 4\$
			04	88	00041	BISB2	#4, -96(CCB)
	50	00000000G	00	16	00045	JSB	BAS\$\$CB_POP
			01	D0	0004B	MOVL	#1, R0
			04	00	0004E	RET	

: 1111
: 1118
: 1125
: 1131
: 1132
: 1133

; Routine Size: 79 bytes, Routine Base: _BAS\$CODE + 004F

: 309 1134 1
: 310 1135 1 END
: 311 1136 1
: 312 1137 0 ELUDOM

! end of module BAS\$CTRLO

PSECT SUMMARY

Name	Bytes	Attributes
_BAS\$CODE	158	NOVEC,NOWRT, RD, EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	2	0	581	00:01.1

COMMAND QUALIFIERS

; BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS\$:BASCTRLO/OBJ=OBJ\$:BASCTRLO MSRC\$:BASCTRLO/UPDATE=(ENH\$:BASCTRLO)

; Size: 158 code + 0 data bytes
; Run Time: 00:10.0
; Elapsed Time: 00:24.3
; Lines/CPU Min: 6828
; Lexemes/CPU-Min: 40438
; Memory Used: 117 pages
; Compilation Complete

0020 AH-BT13A-SE
VAX/VMS V4.0

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BASCLOSE
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BASCONCAT
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BASCTRL0
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BASCHANGE
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BASCOPYED
LIS

BASCHR
LIS

BASMPAPP
LIS

BASOUTOUT
LIS

BASCP05
LIS